

CLAIMS

1. A refrigerator, comprising:  
a seating space with an open front face provided at one side of a door;  
5 a communication pad detachably seated in the seating space;  
a pair of clamps installed on upper and lower ends of the seating space to be pivotable back and forth and supporting the communication pad in the seating space by enclosing upper and lower ends of the communication pad; and  
hinge assemblies fixing the clamps in the seating space and causing the clamps to  
10 rotate only by a force of a predetermined value or higher,  
wherein in a process of mounting and dismounting the communication pad to and from the seating space, the respective clamps simultaneously pivot in opposite directions to each other by the communication pad.
- 15 2. The refrigerator as claimed in claim 1, wherein front ends of the respective clamps are provided with catching portions for supporting upper and lower ends of a front surface of the communication pad, portions opposite to the respective catching portions are provided with supporting portions for supporting upper and lower ends of a rear surface of the communication pad, and the catching portions and the supporting portions cooperate  
20 with each other so that the clamps are formed with insertion grooves in which the upper and lower ends of the communication pad are seated.
3. The refrigerator as claimed in claim 2, wherein the supporting portions of the clamps are formed to be relatively longer than the catching portions, and thus, come into  
25 contact with the rear surface of the communication pad when the communication pad is mounted and dismounted.
4. The refrigerator as claimed in claim 2, wherein the respective hinge assemblies are configured so that respective hinge members with ends connected to the clamps and the  
30 door are rotatably connected to hinge shafts, the hinge members rotating relative to the

hinge shafts when the force of the predetermined value or higher is applied to the hinge members.

5. A refrigerator, comprising:

- 5 a seating space with an open front face formed at one side of a door;  
a communication pad detachably seated in the seating space;  
a clamp installed to an upper end of the seating space to be pivotable back and forth through a hinge assembly and supporting an upper end of the communication pad;  
a holder provided in a lower end of the seating space and supporting a lower end  
10 of the communication pad by allowing it to be inserted in the holder; and  
a locking means for preventing the communication pad from being dismounted from the seating space.

6. The refrigerator as claimed in claim 5, wherein a front end of the clamp is  
15 provided with a catching portion for supporting upper and lower ends of a front surface of the communication pad, a portion opposite to the catching portion is provided with a supporting portion for supporting upper and lower ends of a rear surface of the communication pad, and the catching portion and the supporting portion cooperate with each other so that an insertion groove, in which the upper and lower ends of the  
20 communication pad are seated, is formed in the clamp.

7. The refrigerator as claimed in claim 6, wherein the supporting portion of the clamp is formed to be relatively longer than the catching portion, and thus, comes into contact with the rear surface of the communication pad when the communication pad is  
25 mounted and dismounted.

8. The refrigerator as claimed in claim 6, wherein the door is a home-bar door provided in a door for opening and closing a storage space in a refrigerator main body, the home-bar door being installed so that an upper end thereof is vertically pivotable on a  
30 lower end thereof.

9. The refrigerator as claimed in claim 5, wherein the locking means comprises:  
a locking bar provided in a rear surface of the clamp, protruding rearward, and  
having a catching groove at a front end of the locking bar;

5 a slot formed in the home-bar door to be inclined at a predetermined angle, the  
front end of the locking bar being selectively inserted into the slot; and

a locking ball installed to move along the slot and preventing the clamp from  
rotating by allowing the locking ball to move according to the rotational angle of the  
home-bar door and to be seated in the catching groove.

10

10. The refrigerator as claimed in claim 9, wherein the locking bar is formed so that  
the front end thereof is inclined to the rearward of the home-bar door at a predetermined  
angle, and the slot is formed so that an upper end thereof is inclined to the forward of the  
home-bar door at a predetermined angle.

15

11. The refrigerator as claimed in claim 5, wherein the locking means comprises:  
a housing including an installation space therein;

a stopper including a protruding portion formed in an end of a catching portion  
and a catching portion installed in the installation space, and preventing the clamp from  
20 operating by allowing the protruding portion to selectively protrude out of the housing and  
to be positioned on a rotational trace of the clamp;

an elastic member installed in the installation space of the housing and exerting an  
elastic force in a direction of protrusion of the protruding portion of the stopper out of the  
housing; and

25 an operating knob installed to be exposed out of the door, connected to the stopper,  
operated by a user, and actuating the stopper.

12. The refrigerator as claimed in claim 11, wherein the door is a home-bar door  
which is provided in a door for opening and closing a storage space in a refrigerator main  
30 body, the home-bar door being installed so that an upper end thereof is vertically pivotable

on a lower end thereof.

13. A refrigerator, comprising:

a seating space with an open front face formed at one side of a door;

5 a communication pad detachably seated in the seating space;

an upper holder provided on an upper end of the seating space and supporting an upper end of the communication pad; and

a lower holder provided on a lower end of the seating space and supporting a lower end of the communication pad,

10 wherein at least one of the upper and lower holders is installed to be vertically movable in a height direction of the communication pad.

14. The refrigerator as claimed in claim 13, wherein the upper holder is supported by an elastic member, the elastic member exerting an elastic force in a direction of the upper  
15 end of the communication pad.

15. The refrigerator as claimed in claim 14, wherein the elastic member is provided between a ceiling of the seating space and an upper surface of the upper holder and covered with a cover.

20

16. The refrigerator as claimed in any one of claims 1 to 15, further comprising:

a fixing means fixing the communication pad mounted in the seating space to the seating space;

a password input portion receiving a password for releasing the fixing means;

25 a password recognition portion storing a previously registered password and comparing the password received through the password input portion with the previously registered password; and

a release operating portion causing the fixing means to be released if the password recognition portion determines that the registered password and the received password are  
30 identical to each other.

17. The refrigerator as claimed in claim 16, wherein the fixing means comprises a solenoid with a plunger capable of moving inward and outward.

5 18. The refrigerator as claimed in claim 16, wherein the fixing means comprises a magnet switch selectively generating a magnetic force by means of power on or off.

19. The refrigerator as claimed in any one of claims 1 to 15, further comprising:  
a radio call signal generator provided in a main body side including the door and  
10 generating a radio call signal by user's input;  
a radio call signal receiver provided in the communication pad and receiving the radio call signal;  
a ring tone generator provided in the communication pad and generating a ring tone when the radio call signal is received in the radio call signal receiver; and  
15 a speaker provided in the communication pad and outputting the ring tone generated in the ring tone generator.

20. The refrigerator as claimed in any one of claims 1 to 15, wherein in a connector installed in the seating space to be exposed and including a plurality of terminals, all  
20 terminals except one in the connector are provided with a switch, and the switch is turned on by allowing a connector provided in the communication pad to be inserted in the connector installed in the seating space, thereby effecting an electrically connection between the door side and the communication pad.

25 21. The refrigerator as claimed in claim 20, wherein the terminal without the switch among the terminals of the connector installed in the seating space to be exposed includes an end connected to the switch and the other end selectively connected to one of terminals of the connector provided in the communication pad.